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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/681,891	06/21/2001	Hongy Lin	7377-00081	1521

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HARNESS, DICKEY, & PIERCE, P.L.C
7700 BONHOMME, STE 400
ST. LOUIS, MO 63105

EXAMINER

PELHAM, JOSEPH MOORE

ART UNIT	PAPER NUMBER
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3742

MAIL DATE	DELIVERY MODE
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08/10/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/681,891

Applicant(s)

LIN ET AL.

Examiner

Joseph M. Pelham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

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Claim Rejections - 35 USC § 112

Claims 24-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 24 evidently should depend from claim 14 and not claim 13, which has been cancelled.

Claim 25 recites a "polymer base," which lacks antecedent basis; moreover, claim 25 also depends from cancelled claim 13.

In the rejections that follow, these claims will be treated as though they depend from claims 13 and 16 respectively.

Claim Rejections - 35 USC § 102

Claims 14-17, 20, 25, and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by US Pat. 4404237.

Referring to Figs. 1-4, 1:29-35 ("column: lines"), 5:6-17, 7:12-24, and 10:44-54, US'237 discloses a method of manufacturing a general purpose thick film resistive element comprising a polymer-based ink, lower and sealing dielectric layers (e.g., epoxy, ceramic), curing at 200 deg. C ("140-200 deg. C") for more than thirty minutes ("0.1-1 hour"), a plurality of curing steps ("drying step"), a non-ferrous substrate (e.g., "glass"), and silver conductive particles in the polymer-based ink.

Claim Rejections - 35 USC § 103

Claims 18, 19, and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over US'237 in view of US Pat. 3934119.

The claims differ from US'237 only in reciting curing for 2 hours, a 15 W/cm² power density, and an Al, Cu, ceramic, or high-expansion steel substrate.

However, regarding claims 21-24, US'237 already discloses a steel substrate, and Al, Cu, ceramic, or high-expansion steel are all conventional substrate materials whose desirability in depends strictly on the particular application, in which choice specific heat, thermal conductivity, strength, and weight are routinely considered, and therefore do not patentably distinguish the claimed invention from the prior art.

Regarding claim 18, US'119 discloses, at 4:13-18, the curing of a thicker polymer-based ink resistor for 4 hours. It would have been obvious to utilize such a curing time in such applications as require such thickness of the polymer-based ink.

Regarding claim 19, the power density of the heater is determined strictly by the application, and hence well within the competency of the artisan.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph M. Pelham whose telephone number is 571-272-4786. The examiner can normally be reached on M-F 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu Hoang can be reached on 571-272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

7/17/07



JOSEPH PELHAM
PRIMARY EXAMINER